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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/722,996	11/27/2000	Jiming Sun	884.334US1	4899

21186 7590 03/31/2004

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EXAMINER

AWAD, AMR A

ART UNIT PAPER NUMBER

2675

DATE MAILED: 03/31/2004

Handwritten number 11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/722,996

Applicant(s)

SUN, JIMING

Examiner

Amr Awad

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/26/2004 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 5-8, 10-11, 13-19, 21-22, 24-25, 27-28 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang et al. (US Patent NO. 5,832,296; hereinafter referred to as Wang).

As to independent claim 1, Wang (figure 1) teaches a pointing device (10) which includes a ring (12), a sensor unit comprising a plurality of sensors (14, 16, 18, 20) in substantially circular pattern and mounted on the ring, and wherein the sensor unit is adapted to create position information (col. 4, lines 21-38).

As to claim 2, as can be seen in figure 2, the ring (12) is a size that is capable of being worn by a human digit.

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As to claim 5, as can be seen in figure 2, Wang shows that the pointing device is capable of being operated by human thumb.

As to claim 6, as can be seen in figure 3, Wang shows a controller (processor 42) mounted to the ring wherein the controller is coupled to the sensor (14, 16, 18 and 20), a transmitter (48) coupled to the controller to translate the signal to movement information (col. 5, lines 18-50).

As to claim 7, Wang teaches that the pointing device (12) can be used as a mouse (abstract), which inherently means that the device control a pointer on a display.

As to claim 8, Wang teaches that the pointing device (12) includes a pressure sensor (14) (col. 4, lines 23-26).

As to claims 10-11, Wang shows that the sensors are pressure sensors, which may be either inductance or capacitance.

As to claims 13-19, 21-22, 24-25, 27-28 and 30, the claims are similar to claims 1-2, 5-8 and 10-11, and would be analyzed as previously discussed with respect to these claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 3-4 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Eng et al. (US patent NO. 5,638,092; hereinafter referred to as Eng).

As can be seen above, Wang teaches all the limitations of claims 3-4 and 20 except the citations of having selection button mounted on the ring and wherein the selection button is capable of being operated by a human thumb.

However, Eng (figure 1) teaches a pointing device (101) that include a selection button (120) which can be operated by the user's thumb (col. 3, line 46 through col. 4, line 9).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teaching of Eng having a selecting switch mounted on the ring to be incorporated to Wang's device so as to be able to easily use the device as an input device (mouse), which make the device user friendly, as well as to increase the versatility of the device.

6. Claims 9, 12, 23, 26 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Russell (US patent NO. 5,481,265).

As to claims 9 and 23, Wang does not teach that the plurality of sensors are rocker switches (note that Eng teaches that a touch sensitive pad is preferred to a mechanical switch because of the force required to activate or deactivate a mechanical switch can cause unwanted finger motion (col. 5, lines 30-33) which clearly suggests that a mechanical switches can be used.

However, Russell (figures 1A, 1B and 7B) teaches a user interface (10) that can be worn in the user's finger, and wherein the device includes a plurality of mechanical switches (1a, 1b, 1c and 1d) (col. 11, lines 7-27, and 51-61).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teaching of Russell having mechanical switches to replace Wang's touch switches, because as described above by Eng, mechanical switches may be used, which make such choice purely designed choice based on the environment and the way in which the device operated.

As to claims 12, 26 and 29, Wang does not expressly teach using infrared to transmit the information.

However, Russell teaches a pointing device which uses infrared to transmit the information to the computer device (col. 6, lines 41-44).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teaching of Russell using an infrared transmitter to be used in Wang's transmitter because infrared technology is known for its reliability and efficiency. Furthermore, Russell teaches that transmitter can be any of the known technologies (infrared, radio and acoustic). Therefore, using any of theses methods is also based on the designer choice.

Response to Arguments

7. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Howard (US patent NO. 6,097,374) teaches a wrist-pendent wireless optical keyboard.

Ikehara et al. (US patent NO. 6,400,353) teaches a pointing device wearable on the user's digit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amr Awad whose telephone number is (703)308-8485. The examiner can normally be reached on Monday-Friday, between 9:00AM to 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Saras can be reached on (703)305-9720. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4750.



A.A.
March 26, 2004.